REMARKS/ARGUMENTS

This Amendment is submitted in response to the **non-final** Office Action dated April 29, 2008. The deadline for responding is July 29, 2008.

I. Introduction

The Examiner found that claims 2, 4, 10, 18, 22, 23, 28, and 29 would be allowable if rewritten in independent form. Claims 2, 4, 10, 18, 22, and 28 have been amended accordingly. Claims 5, 6, 11, 12, 19, 23, 24, and 29 are therefore also allowable as they depend from the allowable amended claims. Applicant thanks the Examiner for this finding of allowability. Applicant respectfully declines to amend claim 30 as suggested, as such amendment would narrow the claim unnecessarily. No new matter has been added. Claims 1-32 are therefore pending in the application.

Claims 1, 3, 5, 7-9, 11, 12, 14-17, and 31 stand rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent Publication No. 20040039938 to Katz et al. (hereinafter "the Katz et al. publication"). Claim 6 stands rejected under 35 U.S.C. 103(a) as being unpatentable over the Katz Publication in view of a U.S. Patent Publication to Bearden et al. (hereinafter "the Bearden et al. publication"). **The reference number in the Office Action (20020112073) is the McLampy publication (see below). Applicant respectfully requests that if the Examiner continues to rely on the Bearden et**

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al. reference to reject claims, that a corrected
reference number be provided to Applicant.

Claims 13, 19, and 32 stand rejected under 35 U.S.C.
103(a) as being unpatentable over the <u>Katz et al.</u>
publication in view of Patent Publication No. 20020112073
to McLampy et al. (hereinafter "the <u>McLampy et al.</u>
publication").

Claims 20, 21, 25, 26, and 27 stand rejected under
35 U.S.C. 103(a) as being unpatentable over the <u>Katz et
al.</u> publication in view of Patent Publication No.
20030195861 to McClure et al. (hereinafter "the <u>McClure
et al.</u> publication").

Claim 24 stands rejected under 35 U.S.C. 103(a) as
being unpatentable over the <u>Katz et al.</u> publication and
the <u>McClure et al.</u> publication and further in view of the
<u>Bearden et al.</u> Publication and the <u>McLampy et al.</u>
publication.

As will be discussed below, none of the pending
claims, as amended, are anticipated or rendered obvious
by the applied references.

II. Claims 1, 3, 5, 7-9, 11, 12, 14-17, 30, and 31
      are Patentable Under §102 and/or §103

As indicated in the Introduction above, <u>claims 5,
11, and 12</u> are presently allowable as being dependent on
amended allowable claims.

<u>Claim 1</u> recites the features [emphasis added]:

A method of testing a firewall comprising:

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> *transmitting at least one of a session*
> *initiation signal to initiate a communications*
> *session through said firewall* and a session
> termination signal used to terminate an
> established communications session; and
> *monitoring to determine from the time of at*
> *least one said transmitted signal* at least one
> of *a port opening delay which occurs in regard*
> *to a session initiation signal and opening a*
> *port in said firewall for a communications*
> *session that is being initiated,* and a port
> closing delay which occurs in regard to a
> session termination signal and closing a port
> in said firewall when terminating an
> established communications session.

The Katz et al. publication discloses, at paragraph
[0024] lines 1-5 (emphasis added):

> "Referring to step 115, the **client can measure**
> the network latency between the client and the
> server. As defined herein, **network latency is** an
> expression of **how much time it takes a packet of**
> **data to get from one designated point to**
> **another."**

Further in the paragraph, at lines13-15:

> "The round-trip network latency can be computed
> as the difference between the send time and the
> receive time."

Then , at paragraph [0028], at lines 8-11 (emphasis
added):

> "The **open port duration can be re-calculated**
> with each new network latency measurement or
> when the network latency varies more than a
> predetermined percentage or amount."

The Examiner states on p. 3 of the Office Action
that "A delay is defined as the time period between two
events". Applicant agrees with this definition. The

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question then becomes, "What are the two events?" The Examiner goes on to state "Namely, for the opening of a port event, the delay is the time period between a closed port state and an open port state". Again, Applicant agrees that this is one "delay" associated with a port opening (let's call this "Delay 1").

Next, the Examiner states: "The Katz prior art discloses a time calculation for opening a port and closing a port." The Katz et al. publication states: "In particular, the present invention provides a solution for dynamically varying the timing of port openings and closings according to a latency value to optimize the time duration that ports are open" ([0013] lines 5-9). The two events for "the time duration that ports are open" is the opening of the port and the closing of the port. Let's call this "Delay 2". Again in [0014], lines 7-8: "…the server can compute the open port duration". Further, in [0027] lines 5-10 (emphasis added): "Importantly, referring to decision block 130 and step 135, the network open port duration can be used to time port openings and closings so that the client and server remain synchronized until a communications session is complete. For example, **the time a port is open can be monitored.**" Finally, in [0030] lines 1-7 (emphasis added): "In consequence, the port openings and closings can be timed using a **dynamically changing open port duration** to keep the port openings and closings optimized for the network environment. For example, if the network becomes congested and network latencies begin to increase, **a new open port duration can be computed** and shared between the client and the server."

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Another "delay" in the <u>Katz et al.</u> publication is "round-trip latency". It's defined in [0014] lines 5-7: "…the round-trip latency also can specify a time the client sends a request and a time the client receives a response to the request". Let's call this "Delay 3", where the two events are "sends a request" and "receives a response to the request".

Two other "delays" can be found in Applicant's claim 1, namely:

> *monitoring to determine from the time of at least one said transmitted signal at least one of a port opening delay which occurs in regard to a session initiation signal and opening a port in said firewall for a communications session that is being initiated, and a port closing delay which occurs in regard to a session termination signal and closing a port in said firewall when terminating an established communications session*

Let's call one of these "Delay 4", where the two events are: "a session initiation signal" and "opening a port"; and "Delay 5", where the two events are: "a session termination signal" and "closing a port".

The Examiner's "Delay 1" is not found in any of the references, nor in the instant invention. Similarly, "Delay 2" and "Delay 3" are found in the <u>Katz et al.</u> publication, but not in the instant application. Further, "Delay 4" and "Delay 5" are recited in claim 1, but not in the <u>Katz et al.</u> publication. There is no "session initiation signal" and no "session termination signal" disclosed in the <u>Katz et al.</u> publication. Further, measuring the time between a "session initiation signal" and "opening a port" is not taught or suggested in the <u>Katz et al.</u> publication (nor in any of the cited

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references. Measuring the time between a "session
termination signal" and "closing a port" is likewise not
taught or suggested in the Katz et al. publication (nor
in any other cited reference).

The Examiner states on p. 3 of the Office Action:
"The Katz prior art discloses a time calculation for
opening a port and closing a port. This time calculation
includes a time delay portion calculation". This is
true, but it is a description of "Delay 2" or "Delay 3",
not "Delay 4" or "Delay 5". The former are in the Katz
et al. publication, and the latter are in claim 1. The
Examiner goes on to state: "Katz discloses the
calculation of multiple types of delay and an opening and
closing delay is well known in the art." It is of note
that the Examiner acknowledges that there are "multiple
types of delay". Applicant again agrees that the Katz et
al. publication teaches multiple delays ("Delay 2" and
"Delay 3", for example). However, none of the cited art
teaches or suggests "Delay 4" or "Delay 5", as found in
claim 1.

Further on p. 3 of the Office Action, the Examiner
states that "The applicant states that Katz does not
disclose 'monitoring' on page 13, line 3". Applicant
cannot find a statement to the effect that "Katz does not
disclose 'monitoring'". The question, as argued above,
is **what** is being monitored in the Katz et al. publication
compared to claim 1.

On p. 4 of the Office Action, the Examiner states:

> "In order to adjust a value, the current state
> of a value namely the delay time (time period
> between closed and opened states or between
> opened and closed states) must first be
> determined, and then the value can be adjusted.

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The Katz prior art discloses the determination
of a port opening time period and a port closing
time period. The delay value is the time period
for a transition from one state to the next
state."

It appears that the Examiner is again referring to
"Delay 1". First, that is not the only delay involving
opening or closing a port. Second, the "delay" referred
to be the Examiner ("the time period for a transition
from one state to the next state") is not measured or
discussed in the Katz et al. publication (nor recited in
claim 1).

In paragraph 3.3 on p. 4 of the Office Action the
Examiner refers to "session signaling". Applicant cannot
find this terminology in any of the cited references in
the Katz et al. publication, and therefore cannot respond
to this contention.

For at least these reasons, **claim 1 is patentable
over the Katz et al. publication.**

**Claim 3, for at least the reason of being dependent
on allowable claim 1, is therefore also patentable over
the Katz et al. publication.**

The Examiner states on p. 6 of the Office Action
regarding claim 3 that the Katz et al. publication shows
"port closing delay" at [0014] lines 2-8 and/or [0024]
lines 5-9. However, neither of these references mentions
or describes "port closing delay", at least as found in
claim 3.

Claim 7 recites the feature [emphasis added]:

*measuring a **port closing delay time**
associated with the closing of said at least*

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> *one port following the transmission of said*
> *signal to terminate said communications session*

As discussed above, the <u>Katz et al.</u> publication does not teach or suggest a **port closing delay time,** where the two events are a "signal to terminate said communications session" and a "port closing time".

Again, the Examiner states on p. 7 of the Office Action that the <u>Katz et al.</u> publication shows "port opening delay" and "port closing delay". However, as found in claim 7, the <u>Katz et al.</u> publication does not differentiate between a "signal to terminate said communications session" and "the closing of said at least one port"; therefore it doesn't teach or suggest measuring the time between these two events, and therefore doesn't teach or suggest "port closing delay time".

For at least this reason, **claim 7 is patentable over the <u>Katz et al.</u> publication.**

<u>Claims 8, 9, and 13,</u> for at least the reason of being dependent on allowable claim 7, are therefore also patentable over the <u>Katz et al.</u> publication.

Regarding claim 8, the Examiner again states on p. 7 of the Office Action that the <u>Katz et al.</u> publication shows "port closing delay determination" at [0024] lines 6-9. This reference refers to network latency, not port closing delay.

Claim 8 is additionally patentable over the cited reference as it recites the further feature:

> *wherein said port closing delay is a time*
> *period which occurs between the time a signal*
> *used to cause the closing of the port is*

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> *detected and said port ceases to allow
> communications signals to pass through from the
> first side of said firewall to the second side
> of said firewall*

Again, the <u>Katz et al.</u> publication discloses timing port openings and closings, whereas claim 8 discloses: a "port closing delay", which is further defined as: "a time period which occurs between the time a signal used to cause the closing of the port is detected and said port ceases to allow communications signals to pass through from the first side of said firewall to the second side of said firewall".

There is no mention or suggestion in the <u>Katz et al.</u> publication of determining when a signal to cause the closing of the port is detected", nor of the time that "said port ceases to allow communications signals to pass through", or to measure the time period between those two events.

Further, there is no teaching or suggestion of "determining when a signal to cause the closing of the port is detected", nor of the time that "said port ceases to allow communications signals to pass through", or to measure the time period between those two events.

For at least these additional reasons, claim 8 is patentable over the cited reference.

Regarding claim 9, the Examiner states on p. 8 of the Office Action that the <u>Katz et al.</u> publication discloses "test signals" at [0024] lines 5-9. Applicant cannot find any reference to "test signals" in that cited passage.

It should be noted that the <u>McLampy et al.</u>
publication does not supply any of the above noted
deficiencies in the <u>Katz et al.</u> publication reference
regarding claims 7, 8, 9, or 13.

<u>Claim 14</u> recites the feature [emphasis added]:

> ***determining a time when said test signals
> first pass through said at least one port***, *said
> at least one port being opened in response to
> said signal to initiate a communications
> session; and*
> ***determining a port opening delay*** *which
> occurs in regard to opening a port in said
> firewall for said communications session from
> said determined time*

The Examiner cites the same passages in the <u>Katz et
al.</u> publication regarding claims 14-17 as cited against
claims 1, 3, 7, 8, and 9. For the reasons given above in
relation to those claims, **claims 14-17 are patentable
over the <u>Katz et al.</u> publication. <u>Claims 15-17</u>, for at
least the additional reason of being dependent on
allowable claim 14, are also patentable over the <u>Katz et
al.</u> publication.**

It should be noted that the <u>McLampy et al.</u>
publication does not supply any of the above noted
deficiencies in the <u>Katz et al.</u> publication reference.

<u>Claim 30</u> recites the features [emphasis added]:

> ***transmitting session termination signals***
> *used to control the termination of
> communications sessions through said firewall*
> ***at an increasing rate;*** *and*
> *measuring the* ***effect*** *of the increasing rate
> of session termination signals on* ***port closing***

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delays associated with the termination of
communications sessions through said firewall.

The Examiner does not state the reason for rejecting
claim 30. However, in a previous Office Action, the
Examiner cited paragraph 0013, lines 5-9 to support
"transmitting session signals at an increasing rate".
However, the citation reads: "In particular, the present
invention provides a solution for dynamically varying the
timing of port openings and closings according to a
latency value to optimize the time duration that ports
are open". There is no mention of "transmitting session
termination signals ...at an increasing rate" or of
"measuring the effect of the increasing rate" on "port
closing delays". The reference is to change the **duration**
of port openings.

The Examiner went on to cite paragraph 0030, lines
1-4 [emphasis added]: "In consequence, the port openings
and closings can be timed using a dynamically changing
open port **duration** to keep the port openings and closings
optimized for the network environment". Again, there is
no mention of "transmitting session termination signals
...at an increasing rate" or of "measuring the effect of
the increasing rate" on "port closing delays". The
reference is to change the **duration** of port openings.

The Examiner went on to cite paragraph 0034, lines
1-5 (see citation above), which refers to "monitoring
network latency" to "dynamically adjust the open port
duration". There is no mention of "transmitting session
termination signals ...at an increasing rate" or of

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"measuring the effect of the increasing rate" on "port closing delays".

For at least these reasons, **claim 30 is patentable over the Katz et al. publication.**

Claims 31-32, for at least the reason of being dependent on allowable claim 30, are therefore also patentable over the Katz et al. publication.

Regarding claim 31, the Examiner refers on p. 10 of the Office Action to [0024] lines 5-9, and [0025] lines 7-9. These refer to "network latency", not to "determining the session signal rate which results in a maximum acceptable port closing delay being exceeded".

It should be noted that the McLampy et al. publication does not supply any of the above noted deficiencies in the Katz et al. publication reference.

III. Claim 6 is Patentable Under §102 and/or §103

Claim 6 stands rejected under the Katz et al. publication in view of the Bearden et al. publication. As claim 6 is dependent on allowable claim 4, as amended, **claim 6 is thereby allowable.**

IV. Claims 13, 19, and 32 are Patentable Under §102 and/or §103

Claims 13, 19, and 32 stand rejected under 35 U.S.C. 103(a) as being unpatentable over the Katz et al. publication in view of the McLampy et al. publication.

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Claim 13 is allowable at least as being dependent on allowable claim 7, as argued above in relation to claim 7.

As claim 19 is dependent on allowable claim 18, as amended, **claim 19 is thereby allowable.**

Claim 32 is allowable at least as being dependent on allowable claim 30, as argued above in relation to claim 30.

V.   Claims 20, 21, 25, 26, and 27
       are Patentable Under §102 and/or §103

Claims 20, 21, 25, 26, and 27 stand rejected under 35 U.S.C. 103(a) as being unpatentable over the Katz et al. publication in view of the McClure et al. publication.

Claim 20 recites the feature [emphasis added]:

> an analysis module for determining at least
> a **port closing delay** from a **session signal time**
> and a **time probe signals are detected to stop**
> **passing through a port** in said firewall
> corresponding to an initiated communications
> session.

As discussed above, the Katz et al. publication does not teach or suggest "port closing delay", for any purpose, but certainly not by determining the time from "a session signal time" and a "time probe signals are detected to stop passing through a port".

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The Examiner states on p. 13 of the Office Action that the <u>Katz et al.</u> publication discloses "detected to stop passing through a port in said firewall". Applicant can find no reference in the listed citations to "detecting" any signal "passing through a port", and certainly no reference to detecting that a signal has stopped passing through a port in a firewall.

The Examiner goes on to cite the <u>McClure et al.</u> publication. However, the <u>McClure et al.</u> publication does not monitor "port closing delay". For example, at paragraph 0162, lines 3-5: "the ICMP scanning process sends 100 ICMP echo requests and monitors responses and time-outs." There is no determination of the time from "a session signal time" and a "time probe signals are detected to stop passing through a port".

The Examiner goes on to cite paragraph 0171, lines 1-4: "For each open TCP port located during the service discovery phase, a TCP data probe is sent to that port if the port is known to by typically associated with a particular service." Again, there is no timing of port delays.

The Examiner next cites paragraph 0172, lines 1-4, which also doesn't teach or suggest determination of the time from "a session signal time" and a "time probe signals are detected to stop passing through a port". The cited portion states: "For each UDP port discovered during the service discovery phase, a similar UDP data probe is sent to each UDP port on the target computer

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known to be typically associated with a service." Sending
a probe out will not result in a determination of "port
opening delays" or "port closing delays", but will simply
identify which ports are open or closed at any given
time.

Therefore, since neither the <u>Katz et al.</u> publication
nor the <u>McClure et al.</u> publication teach or suggest the
features of claim 20, no combination of the references
could do so.

For at least these reasons, **claim 20 is patentable
over the <u>Katz et al.</u> publication in conjunction with the
<u>McClure et al.</u> publication.**

**<u>Claim 21</u>, for at least the reason of being dependent
on allowable claim 20, is therefore also patentable over
any combination of the cited references.**

<u>Claim 25</u> recites the feature [emphasis added]:

> *a test signal analyzer for detecting probe
> signals passing through said first side of said
> firewall to said second side of said firewall
> and for* **determining port closing delays** *as
> measured from the* **time the test signal analyzer
> detects a signal used to close a port in said
> firewall and said analyzer ceases to detect
> test signals passing through said firewall.**

As discussed above, the <u>Katz et al.</u> publication does
not teach or suggest **"determining port closing delays"** or
measuring the **"time the test signal analyzer detects a
signal used to close a port in said firewall and said
analyzer ceases to detect test signals passing through
said firewall".**

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Also as discussed above in relation to claim 20, there is no reference in the Katz et al. publication to "ceases to detect test signals passing through said firewall" (p. 16 of the Office Action).

The Examiner cites the McClure et al. publication in conjunction with the Katz et al. publication. As discussed above, the McClure et al. publication does not monitor "port closing delays". For example, at paragraph 0162, lines 3-5: "the ICMP scanning process sends 100 ICMP echo requests and monitors responses and time-outs." There is no determination of the time from "a session signal time" and a "time the test signal analyzer detects a signal used to close a port in said firewall and said analyzer ceases to detect test signals passing through said firewall".

The Examiner goes on to cite paragraph 0171, lines 1-4: "For each open TCP port located during the service discovery phase, a TCP data probe is sent to that port if the port is known to by typically associated with a particular service." Again, there is no timing of port delays.

The Examiner next cites paragraph 0172, lines 1-4: "For each UDP port discovered during the service discovery phase, a similar UDP data probe is sent to each UDP port on the target computer known to be typically associated with a service." Sending a probe out will not result in a determination of "port opening delays" or "port closing delays", but will simply identify which ports are open or closed at any given time.

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For at least these reasons, **claim 25 is patentable over the Katz et al. publication in conjunction with the McClure et al. publication.**

Claims 26 and 27, for at least the reason of being dependent on allowable claim 25, are therefore also patentable over any combination of the cited references.
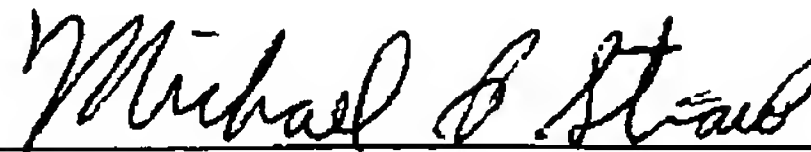
VI. Conclusion

In view of the foregoing amendment and remarks, it is respectfully submitted that the pending claims are in condition for allowance. Accordingly, it is requested that the Examiner pass this application to issue.

If there are any outstanding issues which need to be resolved to place the application in condition for allowance **the Examiner is requested to call (732-542-9070) and schedule an interview with Applicant's undersigned representative.** To the extent necessary, a petition for extension of time under 37 C.F.R. 1.136 is hereby made and any required fee in regard to the extension or this amendment is authorized to be charged to the deposit account of Straub & Pokotylo, deposit account number 50-1049.

None of the statements or discussion made herein are intended to be an admission that any of the applied references are prior art to the present application and Applicants preserve the right to establish that one or more of the applied references are not prior art.

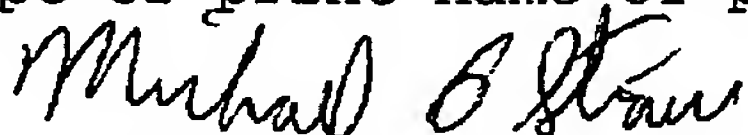Respectfully submitted,

July 15, 2008

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